07 10 00 • WATERPROOFING & DAMPPROOFING

SECTION INCLUDES

07 11 00 Dampproofing
07 12 00 Bituminous Waterproofing
07 19 00 Water Repellents
07 27 00 Air/Vapor Barriers

RELATED SECTIONS

03 30 00 Concrete
04 20 00 Unit Masonry
07 90 00 Sealants
31 00 00 Earthwork

Filed Sub Bid

M.G.L. c.149 §44F

Waterproofing, dampproofing and caulking is a stipulated filed sub-bid category under M.G.L. Chapter 149, §44F. While these types of work are typically specified in different sections if the cumulative estimated value of the work in this section exceeds $20,000 and the projects total cost is over $100,000.it triggers the filed sub-bid requirement. If this is the case, specify it all in a single section to avoid confusion

Note that a wide range of waterproofing products and assemblies would be considered part of this file sub-bid. Only materials typically used for public housing are discussed herein, but care should be taken that when atypical waterproofing products, traffic coatings, and deck and plaza waterproofing systems are included as part of the filed sub bid if they are used in a project.

TECHNICAL STANDARDS

FOUNDATION & WALL DAMPPROOFING & WATERPROOFING

MATERIALS

Waterproofing is intended to create a barrier that large quantities of water under pressure (such as standing water) cannot penetrate. Dampproofing is intended to prevent the penetration of small quantities of water not under pressure; it is often used to control dampness and water vapor. As waterproofing is a more rigorous and usually a more expensive treatment than dampproofing, waterproofing should only be used when dampproofing will not provide sufficient protection. In general, designer should avoid construction below the water table.

DAMPPROOFING

Damproofing is applied when there is little or no hydrostatic pressure (less than 62 lb/ft): the intent is to protect interior surfaces from water vapor diffusion, and moisture wicked in by capillary action.

Products available include:

- ❑ Crystallization products or cementitious coatings Xypex, Vandex, and Permaquick (applied to foundation wall interior). Often used in elevator or sump pits. “Negative” or interior side only.

- ❑ Cementitious coatings to exterior of foundation wall, “Parging” used for CMU walls

- ❑ Asphaltic or Bituminous Coatings to exterior of foundation wall. Spray on or trowel-on applications. General Installation: Apply dampproofing to exterior below grade concrete walls in contact with earth or other backfill, and where the space is enclosed on the opposite side. Also to back side of concrete or masonry retaining walls to prevent the percolating of water through the wall. Requires protection board .

WATERPROOFING

Applied to exterior (positive) side. products should meet ASTM C-836

- ❑ Asphaltic based products to exterior of foundation wall. Built up with 2 or 3 coats combined with membranes. Most economical

- ❑ Rubberized asphalt coating to exterior of foundation wall or slab surface. High performace. More flexible. Spray applied or membranes. Self adhering sheet membranes such as "Bituthene" is the most well known application of this product type. Requires protection layer. WR. Grace, Sonneborn, Koch Materials.

- ❑ Clay bused waterproofing system to exterior of foundation wall, products such as "Bentonite,"or Volclay panels. This is a traditional and effective solution for difficult waterproofing situations, but costly and requires careful application.

- ❑ Thermoplastic Sheet Waterproofing: Typically a multi-layered PVC membrane system such as Sarnafil, combined with drainage blanket and reinforcing fabrics. An effective system typically used for below grade habitable spaces.

In wet areas, use rigid insulation board drain system with channels (such as Thermadry by DOW) in conjunction with a perimeter drain in order to direct water away from the foundation.

All above the systems rely on a properly designed drainage system, and civil engineering services should be used.

Design

Dampproof basement foundation walls and/or provide waterproofing depending on site conditions. A full range of test pits or borings should be utilized to identify possible problems.

Testing of waterproofing (ponding, spray tests) assemblies is recommended prior to covering.

AIR/VAPOR BARRIERS

Materials

For midrise residential buildings, the Massachusetts Energy Code requires a continuous air barrier assembly at opaque exterior walls or soffits, including joints and junctions to abutting constructions to control air movement through the wall. The air barrier also serves as a liquid-water drainage plane flashed to discharge water or condensation to the exterior.

Recommended product is:

Modified Bituminous Sheet: 40-mil thick, peel and stick membranes such as WR Grace Perm-A-Barrier. Care must be taken in selecting compatible accessory transition strips to adjacent materials.

UNIT MASONRY & VENEER BRICK WATER REPELLENTS

Materials

Protective Coatings: The resolution of water infiltration problems at above ground masonry should be accomplished by other means than masonry sealants or coatings. If circumstances demand the use of these products, a penetrating “breathable” system containing silane or siloxanes should be used rather than a film coating.

Protective masonry coatings, such as Hydrozo and ProSoCal, are acceptable as long as they allow moisture to escape. Coatings should have a 10 year minimum guarantee.

Design

Specify water repellants in accordance with manufacturer’s recommendations